



CDR Sustainment, Operations and Change Requests in IOC

Candace Hutchins, Global Science & Technology, Inc.
O&M Project Manager
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Overview

- Review Research-to-Operations process (R2O)
- Operations & Maintenance (O&M) of CDRs
- CDR Program Configuration Management
 - Change Request Process



R2O Process

1) Assess

- Assemble IPT: PI, PI Assistant, SME, PM, Ops, Archive, Access
- Assess current data, documentation, source code; develop transition schedule

2) Prepare

- PI Updates Source Code (CDRP coding standards, README)
- PI Creates Documentation (C-ATBD, Flow Chart, Maturity Matrix)
- PI Preps Data for delivery (netCDF Format, CF metadata)

3) Transfer

- IPT creates submission agreement (PI completes Request to Archive in ATRAC)
- PI transfers a copy of the Source Code, Documentation, and Data to NCDC

4) Verify

- IPT verifies Source Code, Documentation , and Data
- Iterative process until code, documentation, and data meet standards

5) Archive

- NCDC preserves a copy of Source Code, Documentation and Data in the archive

6) Access

- ORR, then provide public access to all items delivered via the CDR access portal

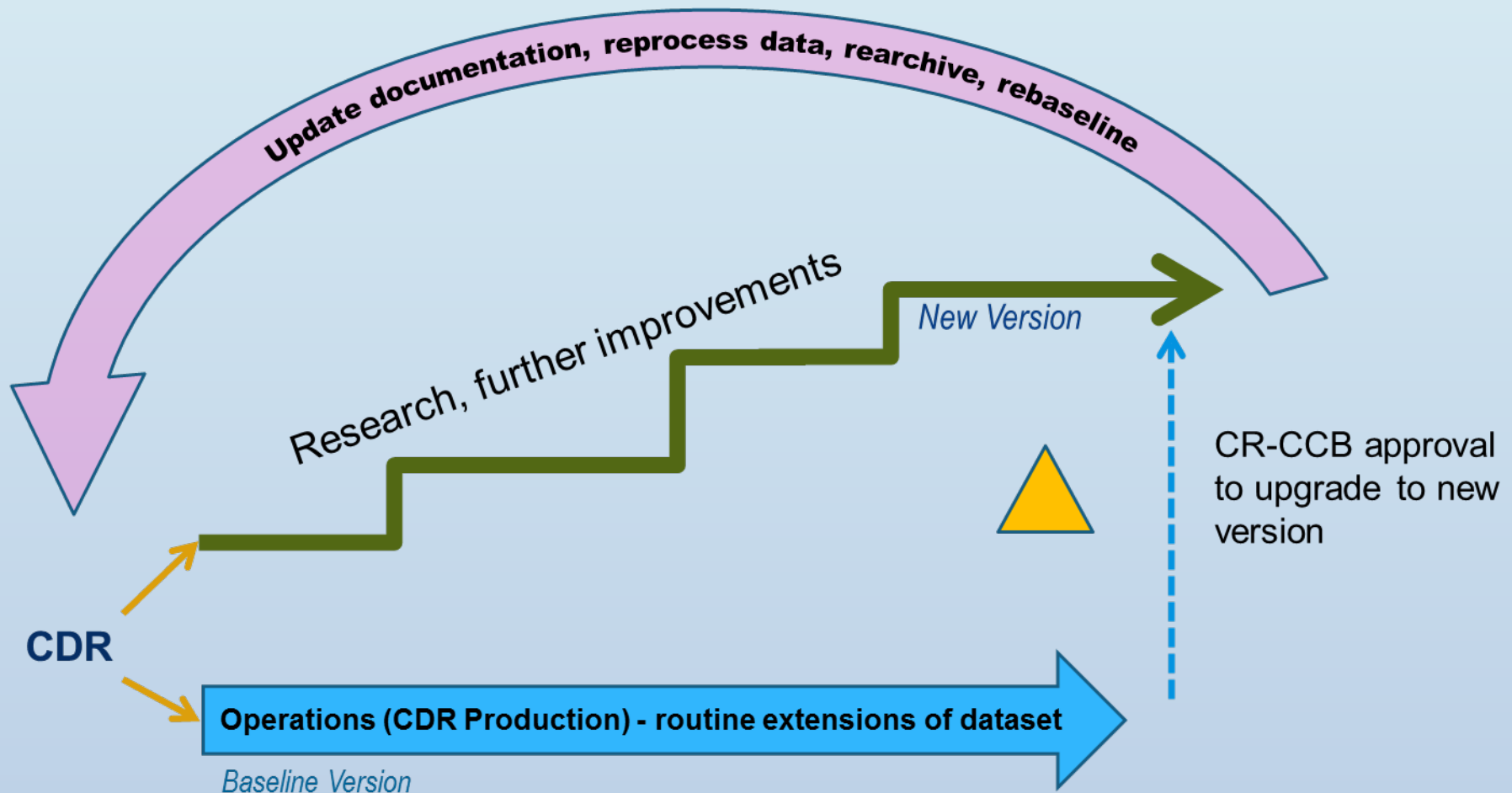


Operations & Maintenance

- CDR has attained IOC
- Implementation Plan
- Provide routine data updates (frequency is determined during the R2O process)
- Quality Assurance Procedure
- Quality Assurance Results delivered with each data update



CDR Improvements



Configuration control is necessary for scientific defensibility

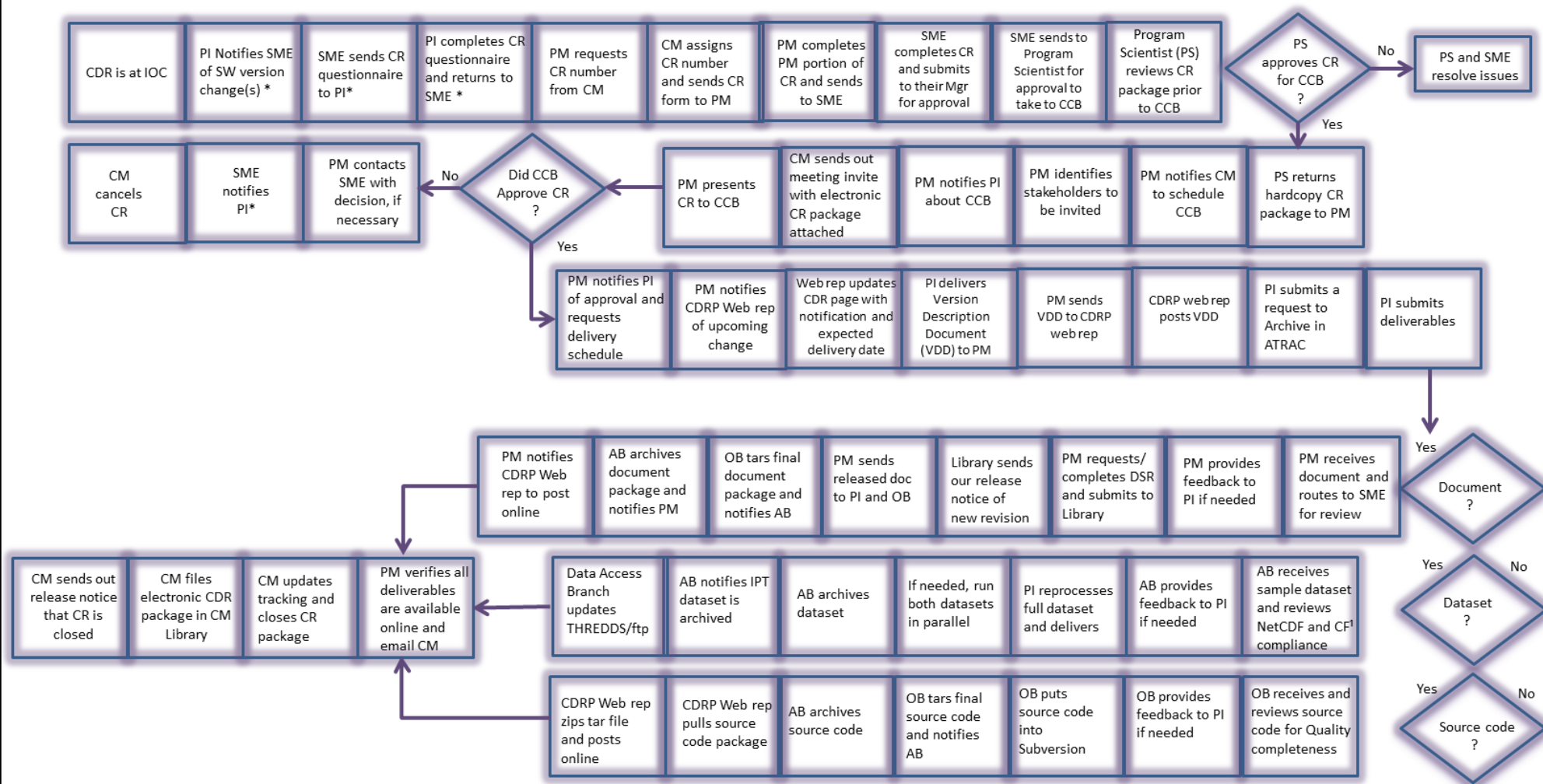
What happens when you submit a change?



Change Request Process

CDRP-DIA-0408 Rev 1-pending
DRAFT

O&M CHANGE REQUEST END-TO-END LIFECYCLE



*CF - climate and forecast convention for metadata

*cc IPT email

Change Request Process

1) The Change Request process is initialized when the PI submits a change to the CDR Program Office for any of the following:

- Documentation
- Software

2) PI completes CR Questionnaire

CDR _____ Current Version _____ New Version _____		SME _____ PM _____	
CDR Change Request (CR) Questionnaire			
<i>(Once completed, this Checklist is attached to the CR)</i>			
1	What type of change is being requested? (check one)		
1a	<input type="checkbox"/>	Enhancement [higher accuracy, lower uncertainty, improved CPU/Storage/Processing time economy, improved error detection/control/ handling/reporting, improved automation]	
1b	<input type="checkbox"/>	Corrective [bug fix affecting data, non-conformance to a requirement, etc]	
2	Which will this change affect? (check all that apply)		
2a	<input type="checkbox"/>	Scientific quality (dataset)	
2b	<input type="checkbox"/>	Technical/Engineering quality (dataset production capability)	
2c	<input type="checkbox"/>	Documentation	
	<input type="checkbox"/>	C-ATBD	<input type="checkbox"/>
	<input type="checkbox"/>	Flow Chart	<input type="checkbox"/>
	<input type="checkbox"/>	Maturity Matrix	<input type="checkbox"/>
	<input type="checkbox"/>	Other	
4	How will this change affect the life-cycle maintenance of the code (if code is being changed)?		
5	What is the driver (requirement) behind this change?		
6	Is this change driven by a current user requirement? <input type="checkbox"/> Yes <input type="checkbox"/> No		
6a	If so, specify the requirement		
7	Is this requirement new or something not performed originally? (overlooked requirement) <input type="checkbox"/> Yes <input type="checkbox"/> No		
8	What exactly will you change? (Attach this checksheet to the CR form)		
9	Will any of the following need to be updated? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/>	Source code	<input type="checkbox"/>
	<input type="checkbox"/>	Security Review	<input type="checkbox"/>
	<input type="checkbox"/>	README	<input type="checkbox"/>
	<input type="checkbox"/>	Other	
10	What areas of the Maturity Matrix will be improved?		
11	If this is a new version, what validation and verification has been done?		
12	What tools or processes can you pass along for independent V&V?		
13	What are the resources required to plan and complete the proposed change?		
	<input type="checkbox"/>	Cost	<input type="checkbox"/>
	<input type="checkbox"/>	Time	<input type="checkbox"/>
	<input type="checkbox"/>	Labor & skills	<input type="checkbox"/>
	<input type="checkbox"/>	Software	<input type="checkbox"/>
	<input type="checkbox"/>	Equipment & tools	<input type="checkbox"/>
	<input type="checkbox"/>	Other	
14	How will the change improve end user application?		
CDRP-FORM-0248 Rev1 10/15/12			



Change Request Process

3) O&M Project Manager and SME complete CR Form

CHANGE REQUEST (CR)					CR No.-	
					CR Date	
1 CI IDENTIFIER: Choose an item.	2 CLASS <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> Fast Track			3 PRIORITY <input type="checkbox"/> Low <input type="checkbox"/> Med <input type="checkbox"/> High		
4 PROJECT MANAGER (if assigned)	5 CHANGE TYPE: <input type="checkbox"/> Permanent <input type="checkbox"/> Variance			6 CATEGORY: Choose an item.		
7 CR TITLE:						
8 DESCRIPTION OF CHANGE: (what)						
9 JUSTIFICATION FOR CHANGE: (why)						
10 DESCRIBE ALTERNATE OPTIONS:						
11 CR CHECKLIST INCLUDED? <input type="checkbox"/> YES <input type="checkbox"/> N/A			12 LIST ANY OTHER ATTACHMENTS:			
13 SUBJECT MATTER EXPERT (SME):			13a BRANCH	13b DIVISION	13c PROGRAM/PROJECT	
14 SME'S MANAGER: (typed)			14a SME MANAGER'S SIGNATURE: (signed)			
Complete Below for Class I Change						
15 PROGRAM SCIENTIST CONCURRED? <input type="checkbox"/> Yes <input type="checkbox"/> No			15a COMMENTS:			
16 AFFECTED ITEMS		ITEM ID	Current Rev	New Rev	N/A-Not Applicable	N/C-No Change
16a DOCUMENTS	Maturity Matrix	CDRP-MM-				
	C-ATBD	CDRP-ATBD-				
	Submission Agreement	AB-SA-				
	Data Flow Diagram:	CDRP-DIA-				
	Version Description Document (VDD)	CDRP-VDD-				
	Other document(s):					
16b SOFTWARE	Filename:					
16c DATASET	Name:					
16d IDENTIFY ANY OTHER RELATED CRs:			16e COMMENTS:			
Schedule						
17 EXPLAIN ANY IMPACTS TO SCHEDULE IF CHANGE IS/IS NOT APPROVED						
18 EXPECTED START DATE:			18a EXPECTED COMPLETION DATE:			
19 APPX LABOR HOURS:			20 COMMENTS:			
Acquisition/Procurement						
21 PROCUREMENT REQUIRED? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> UNKNOWN			21a PURCHASE COST (if known):			
22 FUNDING VEHICLE <input type="checkbox"/> GRANT <input type="checkbox"/> CONTRACT <input type="checkbox"/> BOP <input type="checkbox"/> IAA			22a VEHICLE ID#			
22b COMMENTS:						

Change Request Process

- 4) O&M Project Manager presents the request to the Change Control Board (CCB). The PI is invited to participate in the CCB on a teleconference.
- 5) If CCB approves the change, the PI and IPT work to transition the updated version.

SUPPLEMENTAL BOARD INFORMATION				
Board Member	Recommendation			Comments
	Concur	Non-Concur	Defer	
GST PM				
Branch Head (Products)				
Branch Head (Operations)				
Branch Head (Archives)				
CDR Program Scientist				
CCB CHAIR DISPOSITION <input type="checkbox"/> APPROVE <input type="checkbox"/> APPROVE-with Condition(s) below: <input type="checkbox"/> DISAPPROVE <input type="checkbox"/> DEFER Condition(s): _____ _____ _____ _____				CCB CHAIR SIGNATURE: _____ _____ _____ _____ _____
WILL APPROVED CHANGE AFFECT THE PROGRAM BASELINE? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If yes, must present to Executive Council post CCB approval)</i>				
CM USE ONLY				
CCB DATE: _____		ACTIONS ASSIGNED? <i>(Include with Minutes)</i> <input type="checkbox"/> Yes <input type="checkbox"/> No		
CR CLOSURE DATE: _____		HOW VERIFIED CLOSED? _____		

CDRP-FORM-0044 Rev 7
7/3/13



Change Request Process

6) PI submits a Request to Archive in the NCDC *Advanced Tracking and Resource Tool for Archive Collections (ATRAC)* System. (if not done previously in R2O)

ATRAC v2.5IntroductionLogin

HomeProject DisplayProject Input

IntroductionGuidelines

The Advanced Tracking and Resource tool for Archive Collections (ATRAC) provides a common interface for users to enter and display information on archiving projects at the NOAA National Data Centers.

Data Archiving

The goal of archiving is to accurately preserve a complete understanding of the data so that future users can fully use the data independent of producer assistance. This means that the expert knowledge must be archived with the data and that the data must be continually enhanced through proper data stewardship. This is accomplished through a well-defined archiving process from the onset of the data archive.

ATRAC Overview

ATRAC supports all phases of the archiving process by integrating the collection of project information with project tracking and document creation. A project consists of any number of tasks, where a task is an archive document or activity. The system is flexible in that it is not specific to any type of data or provider, and it efficiently maintains project information for re-use in other documents and projects.

Using ATRAC

The project display pages provide project status and summary information. The timeline view lists projects on a user-configurable time scale and the grid view sorts project characteristics in table columns. Both the timeline and grid views share a [project search](#) to filter the display.

The input section of ATRAC is a set of web forms that create archive documents and feed the project display pages. Anyone can [create an account](#) using an email address and login to enter information on a project. Note that access permissions to existing projects are set by project stakeholders. All users should read the [archiving guidelines](#) before submitting input on a project.

```
graph TD; subgraph Input_Interface [Input Interface]; AR[Archive Request] --> SA[Sub Agrmnt]; SA --> SM[Std Metadata]; SM --> PS[Project Summary]; end; AR --> DO1[Doc Output]; SA --> DO2[Doc Output]; SM --> DO3[Doc Output]; PS --> PD[/Project Dates/]; PS --> TE[/Task & Events/]; PD --> T[Timeline]; TE --> G[Grid]; T <--> G; T --> D[Display]; G --> D;
```

The diagram illustrates the ATRAC system architecture. It shows a flow from the 'Input Interface' (containing 'Archive Request', 'Sub Agrmnt', 'Std Metadata', and 'Project Summary') to the 'Display' (containing 'Timeline' and 'Grid'). The 'Input Interface' also generates 'Doc Output' for each step. The 'Project Summary' feeds into 'Project Dates' and 'Task & Events', which then feed into the 'Timeline' and 'Grid' respectively. The 'Timeline' and 'Grid' are linked by a double-headed arrow, and both feed into the 'Display'.

Change Request Process

7) Prepare

- PI Updates Source Code (CDRP coding standards, README)
- PI Updates Documentation (C-ATBD, Flow Chart, Maturity Matrix)
- PI Reprocesses Full Dataset for delivery (netCDF Format, CF metadata)

8) Transfer

- IPT updates submission agreement
- PI transfers a copy of the Source Code, Documentation, and Data to NCDC

9) Verify

- IPT verifies Source Code, Documentation , and Data
- Iterative process until code, documentation, and data meet standards

10) Archive

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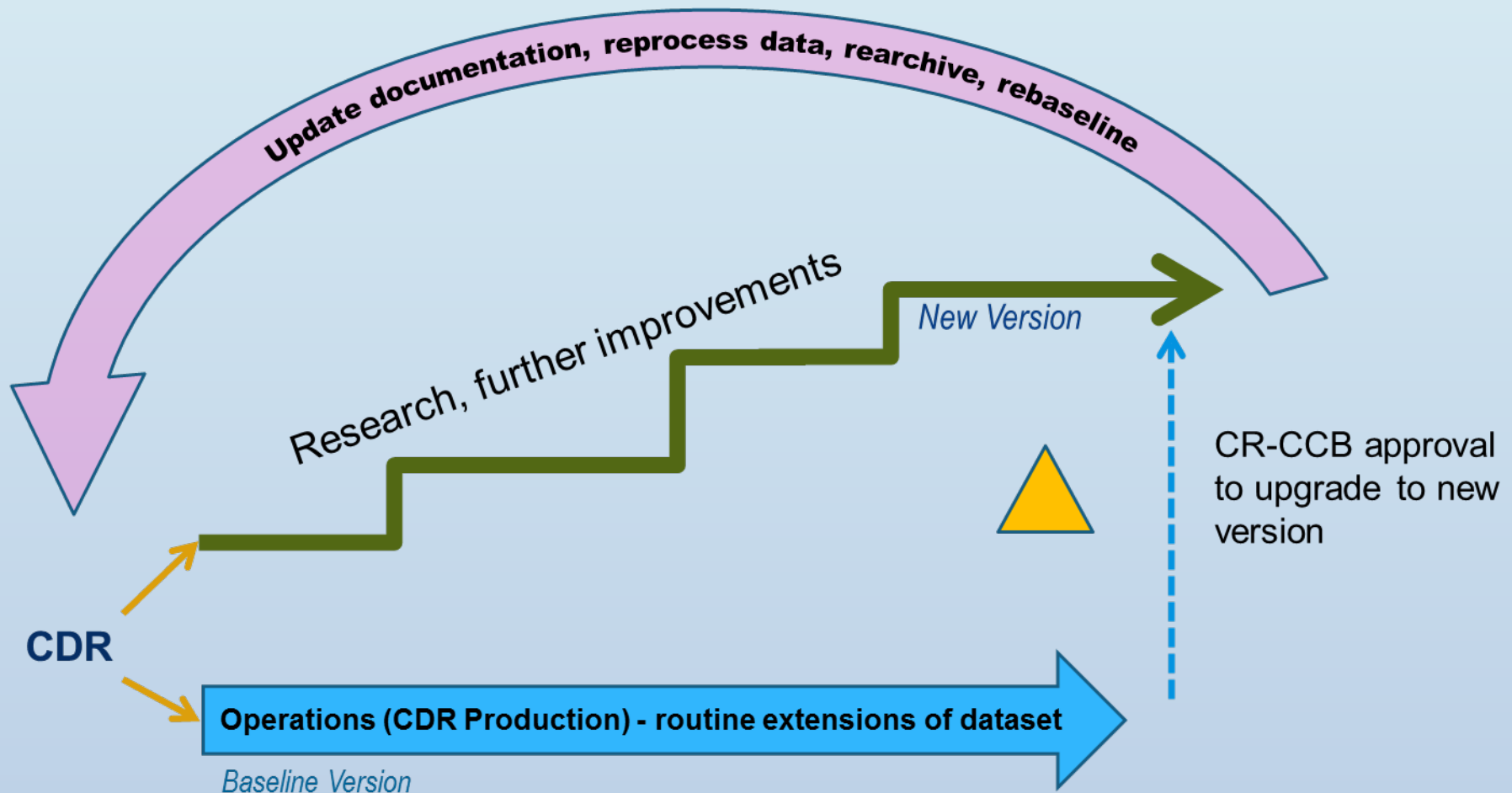
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11) Continuation of previous version's data set updates

- Allow Users time to make modifications to accept new dataset



CDR Improvements



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